

CLAIMS

We claim:

1. A pluggable module for use with a cage that is adapted to receive modules of different widths, the pluggable module comprising:

a module body; and

a plurality of module connectors, wherein, when the pluggable module is received by the cage, each of the plurality of module connectors is connected with a corresponding board connector on a host board on which the cage is mounted.

2. A pluggable module as recited in claim 1, wherein the module body comprises an optical transceiver.

3. A pluggable module as recited in claim 1, wherein each of two or more of the plurality of module connectors is adapted to receive power from the corresponding board connector.

4. A pluggable module as recited in claim 1, wherein the module body is adapted to be received by a chamber of the cage when a removable septum that divides the chamber into laterally displaced subchamber is removed.

5. A pluggable module as recited in claim 1, wherein cage comprises a septum engagement mechanism for removably securing the septum, and wherein the module body

comprises means for engaging with the septum engagement mechanism when the septum is removed and the pluggable module is received by the cage.

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6. A host board system comprising:
- a host board with a plurality of connectors;
- a cage for receiving pluggable modules and for enabling the pluggable modules to be connected to the connectors, the cage being capable of use in either of at least two configurations, including:

a first configuration in which the cage can accept a plurality of first pluggable modules of a first width, wherein, in the first configuration, the cage includes one or more removable septums positioned between pairs of adjacent pluggable modules; and

a second configuration in which the cage can accept a second pluggable of a second width that is wider than the first width, wherein, in the second configuration, said one or more removable septums are removed.

7. A host board system as recited in claim 1, wherein the one or more septums are removable from the cage through a front opening of the cage.

8. A cage for receiving pluggable modules and enabling the pluggable modules to be connected to connectors of a host board, the cage comprising:

a cage body that forms a chamber for receiving pluggable modules, the cage body having sidewalls, the cage body further defining an opening for receiving the pluggable modules; and

a septum engagement mechanism that is adapted to removably secure a septum, wherein:

when the septum is secured by the septum engagement mechanism, subdivides the chamber into laterally displaced subchambers each adapted for receiving a pluggable module of a first width; and

when the septum is removed, the chamber is adapted to receive a pluggable module having a second width that is wider than the first width.

9. A host board assembly that enables a module to be secured and connected to a connector on a host board, the assembly comprising:

a host board with a plurality of connectors;

a cage that is mounted on the host board and forms a chamber for receiving pluggable modules, the cage body having sidewalls, the cage body further defining an opening for receiving the pluggable modules;

a septum engagement mechanism that is adapted to removably secure a septum that, when secured by the septum engagement mechanism, subdivides the chamber into laterally displaced subchambers; and

a module positioned within the chamber, the module having at least one module connector that is connected to a corresponding host connector on the host board.

10. A host board assembly as recited in claim 9, further comprising a septum that is removably secured by the septum engagement mechanism, wherein the module has a width such that the module is secured between the septum and one of the sidewalls.

11. A host board assembly as recited in claim 10, further comprising a second module that has said width and is secured between the septum and another of the sidewalls.

12. A host board assembly as recited in claim 9, wherein the septum is removed from the septum engagement mechanism and the module has a width such that the module is secured between two of said sidewalls and spans the septum engagement mechanism.

13. A cage for receiving pluggable modules of different widths and enabling the pluggable modules to be connected to connectors of a host board, the cage comprising:

a cage body that forms a chamber for receiving pluggable modules, the cage body having sidewalls, the cage body further defining an opening for receiving the pluggable modules;

a septum engagement mechanism that is adapted to removably secure a septum, wherein, when the septum is secured by the septum engagement mechanism, the septum subdivides the chamber into laterally displaced subchambers; and

a plurality of heat sinks, each being disposed over and corresponding to one of the laterally displaced subchambers and forming a top wall of said corresponding laterally displaced subchamber.

14. A cage as recited in claim 13, wherein each of the plurality of heat sinks is independently attached to the cage body and, when the corresponding laterally displaced subchambers receives a module, is capable of displacement in a direction perpendicular to a plane defined by the top wall.

15. A cage for receiving pluggable modules of different widths and enabling the pluggable modules to be connected to connectors of a host board, the cage comprising:

a cage body that forms a chamber for receiving pluggable modules, the cage body having sidewalls, the cage body further defining an opening for receiving the pluggable modules;

a septum engagement mechanism that is adapted to removably secure a septum, wherein, when the septum is secured by the septum engagement mechanism, the septum subdivides the chamber into laterally displaced subchambers; and

a heat sink that is attached to the cage body and defines a top wall of each of the laterally displaced subchambers.

16. A cage as recited in claim 15, wherein the heat sink is substantially rigidly attached to the cage body, the cage body comprising a plurality of leaf springs on a bottom wall opposite the top wall, wherein, when the chamber receives a pluggable module, at least one of the plurality of leaf springs biases the pluggable module against the heat sink.

17. A cage as recited in claim 16, wherein the plurality of leaf springs comprises a first leaf spring associated with a first of the laterally displaced subchambers and a second leaf spring associated with a second of the laterally displaced subchambers.

18. A cage as recited in claim 16, wherein at least a portion of the septum engagement mechanism is formed on the heat sink such that, when the septum is secured by the septum engagement mechanism, the septum is attached to the heat sink.

19. A cage as recited in claim 18, wherein the heat sink has defined thereon a longitudinal groove that constrains motion of the septum when the septum is received by or removed from the cage.

20. A septum for subdividing a chamber of a cage that receives pluggable modules, the septum comprising:

a septum body having:

a cage engagement mechanism that permits the septum to be removably secured by the cage;

a first side and an opposite second side that, when the septum is received by the cage, define a wall of a first subchamber and a second subchamber, respectively, of the cage;

a first latching mechanism on the first side that is adapted to removably secure a pluggable module in the first subchamber; and

a second latching mechanism on the second side that is adapted to removable secure a pluggable module in the second subchamber.

21. A septum as recited in claim 20, further comprising means formed on the septum for permitting a user to selectively disengage the first latching mechanism so as to release the pluggable module from the first subchamber.

22. A heat sink for use with a cage that receives pluggable modules of different widths, the heat sink comprises:

a heat transfer surface that is adapted to contact a pluggable module when the pluggable module is received in a chamber of the cage, wherein the heat transfer surface defines a wall of the chamber when the heat sink is attached to the cage;

an attachment mechanism by which the heat sink can be attached to the cage;

a septum engagement mechanism that is adapted to removably engage a septum associated with the cage, wherein, when the septum is engaged by the septum engagement mechanism, the septum subdivides the chamber into laterally displaced subchambers, each adapted for receiving a pluggable module having a first width.

23. A heat sink as recited in claim 22, wherein, when the septum is removed from the septum engagement mechanism, the chamber of the cage is adapted to receive a pluggable module having a second width that is wider than the first width.

24. A cage for receiving pluggable modules of different widths and enabling the pluggable modules to be connected to connectors of a host board, the cage comprising:

a cage body that forms a chamber for receiving pluggable modules, the cage body having sidewalls, the cage body further defining an opening for receiving the pluggable modules;

a septum that, when positioned in the chamber, subdivides the chamber into laterally displaced subchambers;

a septum engagement mechanism that is adapted to removably secure the septum in the chamber; and

conductive fingers formed on the cage body and the septum adjacent to the opening, such that the conductive fingers contact a pluggable module when the pluggable module is received by the cage so as to reduce electromagnetic interference from the pluggable module.